

**REMARKS**

Claims 1, 2, 8, and 9 were examined and reported in the Office Action. Claims 1, 2, 8, and 9 are rejected. Claims 1, 2, 8 and 9 are amended. Claims 1, 2, 8, and 9 remain.

Applicant requests reconsideration of the application in view of the following remarks.

I. **35 U.S.C. §102**

A. It is asserted in the Office Action that claims 1, 2, 8, and 9 are rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,806,553 issued to Yashima et al ("Yashima"). Applicant respectfully traverses the aforementioned rejection for the following reasons.

According to MPEP §2131,

'[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.' (Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)). 'The identical invention must be shown in as complete detail as is contained in the ... claim.' (Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989)). The elements must be arranged as required by the claim, but this is not an ipsissimis verbis test, i.e., identity of terminology is not required. (In re Bond, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990)).

Applicant's amended claim 1 contains the limitations of

a microwave tunable device is included in a phase array antenna system, the microwave tunable device including: a MgO substrate; a ferroelectric/dielectric  $(Ba_{1-x},Sr_x)TiO_3$  (BST) thin film oriented in a (111) direction which is formed on the MgO substrate, wherein x is a number and represents a composition ratio; and a single layer electrode pattern formed on the ferroelectric/dielectric BST thin film and separated from the MgO substrate.

Applicant's amended claim 8 contains the limitations of

a microwave tunable device is included in a satellite communication system, the microwave tunable device including: a MgO substrate; a ferroelectric/dielectric  $(Ba_{1-x},Sr_x)TiO_3$  (BST) thin film oriented in a (111) direction which is formed on the MgO

substrate, wherein x is a number and represents a composition ratio; and a single layer electrode pattern formed on the ferroelectric/dielectric BST thin film and separated from the MgO substrate.

Applicant has amended claims 1 and 8 to contain the limitations of a single layer electrode pattern formed on the ferroelectric/dielectric BST thin film and separated from the MgO substrate. Applicant notes that Fig. 1B shows MgO substrate 100 having its upper portion covered with the ferroelectric/dielectric BST thin film 110. The single layer electrode pattern 120 is formed directly on the ferroelectric/dielectric BST thin film 110 and is not in contact with the MgO substrate, i.e., separated from the MgO substrate. This is also supported on page 6 of Applicant's specification: "[f]irst a ... (BST) thin film 110 is grown on the MgO substrate 100." (Applicant's specification, page 6, lines 2-3). "Subsequently, a material for forming electrodes is deposited on the ferroelectric/dielectric BST thin film 110, and an electrode pattern 120 is formed by performing photolithography and etching processes." (Applicant's specification, page 6, lines 17-20).

Yashima discloses a variable capacitor. The capacitor can have an MgO substrate and a BST thin film dielectric material. Yashima discloses that the electrode pattern includes more than a single layer of electrodes. (Yashima, Fig. 1, 8, 9 10, 11, 14, 15, 16, 17, 18, 19 and 20). As illustrated in the Figures of Yashima, dielectric layer 3 only has a portion, at best, in contact with the substrate 1. And the capacitor has an upper electrode (e.g., 4) and lower electrode (e.g., 2), where the upper electrode and lower electrode are separated by the dielectric layer 3. Yashima, however, does not teach, disclose or suggest a single layer electrode pattern formed on the ferroelectric/dielectric BST thin film and separated from the MgO substrate.

Therefore, since Yashima does not disclose, teach or suggest all of Applicant's amended claims 1 and 8 limitations, Applicant respectfully asserts that a *prima facie* rejection under 35 U.S.C. §102(e) has not been adequately set forth relative to Yashima. Thus, Applicant's amended claim 1 is not anticipated by Yashima. Additionally, the claims that directly depend from Applicant's amended claims 1 and 8, namely claims 2, and 9, respectively, are also not anticipated by Yashima for the same above reason.

Accordingly, withdrawal of the 35 U.S.C. §102(e) rejection for claims 1, 2, 8, and 9 is respectfully requested.

**CONCLUSION**

In view of the foregoing, it is believed that all claims now pending, namely 1-2 and 8-9, patentably define the subject invention over the prior art of record and are in condition for allowance and such action is earnestly solicited at the earliest possible date.

If necessary, the Commissioner is hereby authorized in this, concurrent and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2666 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17, particularly extension of time fees. If a telephone interview would expedite the prosecution of this Application, the Examiner is invited to contact the undersigned at (310) 207-3800.

Respectfully submitted,

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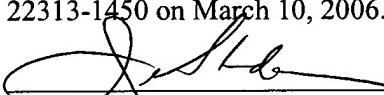
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I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail with sufficient postage in an envelope addressed to: Mail Stop AF, Commissioner for Patents, P. O. Box 1450, Alexandria, Virginia 22313-1450 on March 10, 2006.

  
Jean Svoboda